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(71)Applicant : RICOH CO LTD

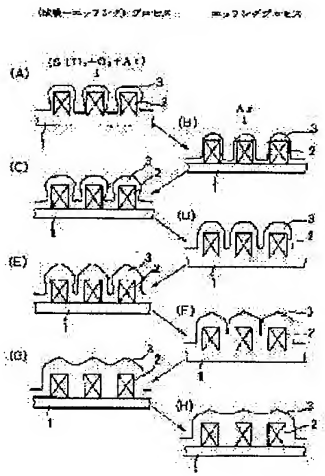
(72)Inventor : FUSE AKIHIRO

(54) MANUFACTURE OF SEMICONDUCTOR DEVICE

(57)Abstract:

PURPOSE: To restrain damage on a semiconductor device by a bias ECR plasma CVD method, and form a high reliability insulating film with excellent controllability which has an excellent step-covering form.

CONSTITUTION: Firstly a bias ECR plasma CVD process is performed for a specified period by introducing film forming material gas and argon gas, and a silicon oxide film 3 having an overhang form to some extent is formed on a metal wiring 2 as shown by (A). Secondly the introduction of film forming gas is interrupted, and a sputter etching process is performed for a specified period. By primarily etching the overhang part of the silicon oxide film 3, a form shown by (B) is obtained. After that, the bias ECR plasma CVD process and the sputter etching are sequentially repeated, and an insulating film 3 having excellent step-covering form wherein the part between the metal wirings 2 and 2 is filled without voids and flattened as shown by (H) is finally formed.



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